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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 15

Application Number: 09/680,465
Filing Date: October 06, 2000
Appellant(s): JAPUNTICH ET AL.

KARL G. HANSON
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/10/2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 33,35-57,60-63,66-83 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

2,072,516	SIMPSON ET AL.	10-1981
3,191,618	McKIM	06-1965
812,706	WARBASSE	02-1906

4,934,362 BRAUN 06-1990

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 33,35-57,60-63,66-83 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 34-38,40-74,78-81 of copending Application No. 08/240,877. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in each co-pending application are drawn to a filtering face mask adapted to fit over the nose and mouth of a wearer and having an exhalation valve which has a flap retaining stationary surface and a second free portion which lifts away from its seat during user exhalation. While certain features (e.g. a filtering layer for filtering air that passes through the mask body; the nonalignment of the flap retaining surface and the seal surface being positioned relative to each other to allow for a cross-

sectional curvature of at least the one free portion of the flexible flap when viewed from the side in a closed position) are omitted from base claim 33 of the instant application, the filtering aspect of the face mask is broadly recited as an intended result in the preamble of claim 33 and the flap retaining surface and seal surface are defined in other analogous terms "fixed portion" and "one free portion", respectively; the curved configuration of the valve when viewed from a side elevation is recited as a result of the valve flap being pressed towards the seal in an abutting relationship. In essence, claim 33 of the instant application is defined in broader but equivalent terminology with differences which one of ordinary skill would have viewed as obvious because claim 33 of the instant application and claim 78 of application ('877) each define a filtering face mask having an exhalation valve positioned thereon which exhibits a curved configuration at rest when viewed from the side due to its manner of mounting. In re Karlson, 136 USPQ 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (Bd. App. 1969). Omission of a reference element whose function is not needed would have been obvious to one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 33,35-46,48-57,66-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson et al.('516) in view of McKim('618).

As to claim 33, Simpson et al. disclose a filtering (page 1, lines 108-113) face mask (1,2) that comprises: a mask body (1,2) that is adapted to fit over the nose and mouth of a wearer (fig.1); and an exhalation valve (12) that is positioned on the mask body substantially opposite to a wearer's mouth, the exhalation valve comprising: a valve seat that comprises: a seal surface (page 2, lines 37-50 and #19) and an orifice (16) that is circumscribed by the seal surface; cross members (surfaces between orifices 16) that extend across the orifice to create a plurality of openings within the orifice; and a single flexible flap (15) that has a fixed portion (page 2, lines 46-50) and only one free portion and first and second opposing ends (page 2, lines 42-50), the first end of the single flexible flap being associated with the fixed portion of the flap so as to remain at rest during an exhalation, and the second end being associated with only the free portion of the flexible flap so as to be lifted away from the seal surface during an exhalation, the second end also being located below the first end when the filtering face mask is worn on a person (fig.1), wherein the flexible flap is positioned on the valve seat such that the flap is pressed towards the seal surface in an abutting relationship therewith when fluid is not passing through the orifice (page 2, lines 41-50).

The difference between Simpson et al. and claim 33 is the flexible flap would normally assume a flat configuration when not secured to the valve seat and having no forces applied to it, but the flexible flap when secured to the valve seat at its fixed portion has a curved profile when viewed from a side elevation.

McKim ('618) teaches a flexible flap which would normally assume a flat configuration when not secured to the valve seat and having no forces applied to it, but the flexible flap when secured to the valve seat at its fixed portion (14a) has a curved profile when viewed from a side elevation

McKim teaches a curved seal surface and curved flexible flap for the purpose of seating quickly, effectively and without float or bounce after each opening (col.1, lines 64-72). Additionally, the one free portion of the flexible flap of Simpson et al. as further modified by McKim (figs.1,5) has a profile that comprises a curve when viewed from the front, which curve is cut to correspond to the general shape of the seal surface.

It would have been obvious to modify the flexible valve flap and seat of Simpson et al.(fig.2) to be curved because it would have provided quick seating, in an effective manner and without float or bounce after each opening as taught by McKim.

As to claims 35-36, the valves (figs.2 and 3) of Simpson et al. (page 2, lines 37-65) are disclosed as being made of plastic and/or rubber material. It would have been obvious to fabricate the valves by any well known technique which is known to be employed in the fabrication of plastics and rubber including the technique of injection molding.

As to claim 37, Simpson et al. disclose the flexible flap being pressed towards the seal surface such that there is a substantially uniform seal when the valve is in a closed position (page 2, lines 39-42). The seal (figs.2 and 3) of Simpson et al. are illustrated as being substantially uniform and since the flexible flap (15) of Simpson et al. is disclosed of being made from plastic and since known physical characteristices of plastics include flexibility and resiliency, the flap (15) of Simpson et al. being made from plastic is fully capable of providing the recited function of "...capable of allowing the flap to display a bias towards the seal surface.".

As to claim 38, the flexible flap (15) of Simpson et al. is disclosed as being made of flexible plastic and as such is fully capable of performing the recited function of resisting permanent set and creep.

As to claims 39 and 42, the flexible flaps (15,18) of Simpson et al. is disclosed as being made of plastic and/or rubber for example (page 2, lines 39 and line 53). It would have been obvious to make the flexible flap from any well known flexible material including an elastomeric rubber such a polyisoprene as mere substitution of one well known flexible material for another and because elastomeric rubber is a well known material from which to make valve flaps.

As to claims 40 and 41, the degree of a seal between the valve flap and valve seat sealing surface of Simpson et al. can be arrived at through mere routine obvious experimentation and observation with no criticality seen in any particular degree of seal including one meeting the standards as set forth in 30 C.F.R. 11.183-2, July 01, 1991. Further, it stands to reason that one oridinary skill in the art would strive to make a face mask in accordance with at least minimum current government standards of operation including one having a valve flap having a stress relaxation sufficient to keep the flexible flap in an abutting relationship to the seal surface under any static orientation for 24 hrs. at 70 degrees centigrade.

As to claims 43-46,48,49, the particular dimensions, the particular material including the hardness of the material of the flexible flap (15,14) of Simpson et al. can be arrived at through mere routine obvious experimentation and observation with no criticality seen in any particular dimensions nor in any particular constituency.

As to claim 50, while Simpson et al. is silent as to the relative surface areas of the fixed and free portions of flap (15), it is submitted that the particular relative amounts of the fixed and free portions can be arrived at through mere routine obvious

experimentation and observation with no criticality seen in any particular relative amounts including 10-25% fixed and 75-90% free.

As to claim 51, the flange against which the valve flap is secured in Simpson et al. (fig.2) is illustrated as being the same 360 degrees around the valve seat.

As to claim 52, given the downward orientation of the mask body (1,2) of Simpson et al. fig.1 and given that any exhaled air must pass outward between the valve flap (15,14) and the body the of mask, it stands to reason that exhaled air will follow a path which is generally parallel to the upper surface of the body of the mask which itself is downwardly oriented as illustrated in fig.1. Therefore, exhaled air is deflected downwardly during use of the mask of Simpson et al..

As to claim 53, Simpson et al. (page 1, lines 116-123) disclose the mask body is cup-shaped and comprises at least one shaping layer for providing structure to the mask, and a filtration layer, the at least one shaping layer being located outside of the filtration layer on the mask body.

As to claim 54-56, while Simpson et al. do not address the particular volume of a wearer's exhalation exiting the exhalation valve (12), it is submitted that since the exhalation valve (12) is expressly disclosed as opening in response to a wearer's exhalation, the valve of Simpson et al. is fully capable of providing the recited function inasmuch as it would remain opened as long as a wearer is exhaling which would enable most if not all of the volume including 60-73% of gas exhaled by a wearer to pass through valve 12 of Simpson et al..

As to claim 57, since the mask body (1,2) of Simpson et al. is angled downwardly when positioned on wearer's face, the valve (12) on mask body (1,2) of Simpson et al. is positioned substantially opposite a wearer's mouth (fig.1). The valve flap (15) of Simpson et al. is mounted on the valve seat (fig.2) in cantilever fashion.

As to claim 66, Simpson et al. as further modified by McKim also teach a flexible flap having a curved profile when viewed from a side elevation in its secured position on the valve seat and is pressed towards the seal surface in an abutting relationship therewith (see figs. 1 and 5 of McKim).

As to claim 67, Simpson et al. as modified by McKim as discussed above with respect to claim 33 also teach a non-centrally disposed stationary segment and a only one free portion which are analogous to the abovementioned fixed portion and free portion of claim 33.

As to claim 68, the seal surface of each of Simpson et al. and McKim is substantially uniformly smooth to insure that a good seal occurs between the single flexible flap and the seal surface, and wherein the flexible flap is made from a material that is capable of allowing the flap to display a bias towards the seal surface (see col.1, lines 59,60 of McKim and figs.1,3).

As to claim 69, the flexible flap (15) of Simpson et al. is disclosed as being made of flexible plastic and as such is fully capable of performing the recited function of resisting permanent set and creep.

As to claim 70, the degree of a seal between the valve flap and valve seat sealing surface of Simpson et al. can be arrived at through mere routine obvious experimentation and observation with no criticality seen in any particular degree of seal including one meeting the standards as set forth in 30 C.F.R. 11.183-2, July 01, 1991. Further, it stands to reason that one oridinary skill in the art would strive to make a face mask in accordance with at least minimum current government standards of operation including one having a valve flap having a stress relaxation sufficient to keep the flexible flap in an abutting relationship to the seal surface under any static orientation for 24 hrs. at 70 degrees centigrade.

As to claims 71-74, the flexible flaps (15,18) of Simpson et al. is disclosed as being made of plastic and/or rubber for example (page 2, lines 39 and line 53). It would have been obvious to make the flexible flap from any well known flexible material including an elastomeric rubber such a polyisoprene as mere substitution of one well known flexible material for another and because elastomeric rubber is a well known material from which to make valve flaps and the particular dimensions, the particular material including the hardness of the material of the flexible flap (15,14) of Simpson et al. can be arrived at through mere routine obvious experimentation and observation with no criticality seen in any particular dimensions nor in any particular constituency. For example, the relative dimensions of the flap would depend upon the overall size of the mask (adult or child size) as well as on the desired volume of airflow intended to pass through the valve opening. The particular material and degree of hardness employed for the valve flap would depend how well the valve and seat material mated together to form a seal.

As to claim 75, given the downward orientation of the mask body (1,2) of Simpson et al. fig.1 and given that any exhaled air must pass outward between the valve flap (15,14) and the body the of mask, it stands to reason that exhaled air will follow a path which is generally parallel to the upper surface of the body of the mask which itself is downwardly oriented as illustrated in fig.1. Therefore, exhaled air is deflected downwardly during use of the mask of Simpson et al..

As to claim 76, Simpson et al. (page 1, lines 116-123) disclose the mask body is cup-shaped and comprises at least one shaping layer for providing structure to the mask, and a filtration layer, the at least one shaping layer being located outside of the filtration layer on the mask body.

As to claims 77 and 78, while Simpson et al. do not address the particular volume of a wearer's exhalation exiting the exhalation valve (12), it is submitted that since the exhalation valve (12) is expressly disclosed as opening in response to a wearer's exhalation, the valve of Simpson et al. is fully capable of providing the recited function inasmuch as it would remain opened as long as a wearer is exhaling which would enable most if not all of the volume including 60-73% of gas exhaled by a wearer to pass through valve 12 of Simpson et al..

As to claim 79, since the mask body (1,2) of Simpson et al. is angled downwardly when positioned on wearer's face, the valve (12) on mask body (1,2) of Simpson et al. is positioned substantially opposite a wearer's mouth (fig.1). The valve flap (15) of Simpson et al. is mounted on the valve seat (fig.2) in cantilever fashion.

As to claim 80, the shape of the orifice (16) of Simpson et al. does not wholly correpsond to the shape of the seal surface inamuch as the seal surface surrounds the orifice.

Claim 81 is substantially equivalent in scope to claim 33 and is included in Simpson et al. as modified by McKim for the reasons set forth above with respect to claim 33. Simpson et al. (page 1, lines 116-123) disclose a cup shaped mask body having a filtration layer and at least one shaping layer as well as an exhalation valve (fig.1) which is positioned on the mask body substantially opposite to a wearer's mouth when the mask is being worn.

As to claim 82, the shape of the orifice (16) of Simpson et al. does not wholly correspond to the shape of the seal surface inasmuch as the seal surface is rectangularly shaped and surrounds the oval or round orifice (16).

Claims 60-63,83 rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson et al. in view of McKim as applied to claim 33,35-46,48-57,66-82 above, and further in view of Warbasse ('706) and Braun ('362).

The differences between Simpson et al. and claim 60 are an opening that is disposed directly in the path of fluid flow when a free portion of the flexible flap is lifted from the seal surface during an exhalation; a fluid impermeable ceiling that increases in height in the direction of the flexible flap from the first end to the second end; and cross members that are disposed within the opening of the valve cover.

Warbasse teaches a valve cover (11) having a fluid impermeable ceiling that increases in height in the direction of the flexible flap from the first end to the second end for the purposes of protecting the valve flap (12), controlling the extent of movement of the valve flap, and controlling the direction of fluid flow exiting the mask via the valve.

It would have been obvious to further modify the valve (fig.2) of Simpson et al. to provide a valve cover because it would have provided a means for protecting the valve flap (12), controlling the extent of movement of the valve flap, and controlling the direction of fluid flow exiting the mask via the valve as taught by Warbasse.

Braun, in an exhalation valve for a filtering face mask, teaches cross members (25) that are disposed within the opening of the valve cover for the purpose of protecting the valve against debris (col.4, lines 25-26).

It would have been obvious to furthter modify the valve cover of Simpson et al. as modified by Warbasse to provide cross members within the opening of the valve cover

because it would have provided a a means for protecting the valve against debris as taught by Braun.

As to claim 61, Warbasse teach a valve cover (11 of fig.2) having an opening in the valve cover which is approximately parallel to the path traced by the second end of the flexible flap during its opening and closing.

As to claim 62, Simpson et al. as further modified by Warbasse teach a cover which directs exhaled downwards when the mask is worn by a person.

As to claim 63, the cover (#11 of figs.2 and 3) of Warbasse shows fluid impermeable sidewalls.

As to claim 83, the opening in the cover of Warbasse (figs.2 and 3) is illustrated as being at least the size of the orifice in the valve seat.

Response to Arguments

Applicant's arguments filed 02/07/2003 have been fully considered but they are not persuasive. Applicants' argument that McKim constitutes nonanalogous art because it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, is is submitted that one of ordinary skill would look to the art of valves (which includes McKim ('618)) to address problems associated with the effectiveness of valve seating of a valve element which is used for controlling the direction of flow of breathable air through such a valve. McKim clearly addresses the

problem of effectiveness of valve seating by non-aligning the flap retaining surface and the seal surface relative to each other thereby providing effective seating without float or bounce after each opening (col.1, lines 64-72).

Applicants' argument that the valve of McKim lacks the required flexibility of applicant's invention is disagreed with because McKim (figs.1 and 3) illustrates flexibility of the valve flap (14). Further, the manner of bending illustrated in figs.1 and 3 of McKim is consistent with appellants definition of a "...the flap can form or bend in the form of a self-supporting arc when secured at one end as a cantilever and view from a side elevation...". Finally, no particular degree of flexibility is quantitatively and/or structurally defined in any manner which is unobvious over the prior art combination of Simpson et al. as modified by McKim.

As to the Bowers, Fabin, and Betts affidavits, the individual arguments that McKim constitutes nonanalogous art because it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, is is submitted that one of ordinary skill would look to the art of valves (which includes McKim ('618)) to address problems associated with the effectiveness of valve seating of a valve element which is used for controlling the direction of flow of breathable air through such a valve. McKim clearly addresses the problem of effectiveness of valve seating by non-aligning the flap retaining surface and the seal surface relative to each other thereby providing effective seating without float or bounce after each opening (col.1, lines 64-72).

Applicants' argument that the valve of McKim lacks the required flexibility of applicant's invention is noted; however, it is submitted that the valve of Simpson et al.,

being an exhalation valve, exhibits structure which is fully capable of providing such a function. Further, no particular degree of flexibility is quantitatively and/or structurally defined in any of the claims of the instant application.

Applicants' arguments that the prior art does not provide the benefits of applicant's invention is disagreed with because the prior art does teach the claimed structure of the instant application and as such, is fully capable of providing the so called benefits.

Applicants' argument that the propriety of the combination is not proper is disagreed with because the reasons for modification of Simpson et al. are clearly set forth above in the body of the rejection(s) of the claims.

Accordingly, the affidavits by Bowers,Fabin, and Betts are insufficient to overcome the prior art rejection set forth herein above based upon a conclusion that they do not believe that one of ordinary skill would be motivated to combine the teachings of McKim with Simpson et al. to achieve the valve of the instant invention. It is submitted that one of ordinary skill having possession of the prior art to Simpson et al. and McKim which clearly teaches nonaligned mounting of a valve flap in order to achieve effective sealing would suggest an answer to the problem of how to prevent accidental valve opening and efficient sealing between inhalation and exhalation.

Applicants' assertions that the valve of fig.2 of Simpson et al. dangles open are not persuasive. The mask of Simpson et al. is specifically intended to filter gaseous or vaporous contaminants and particulate contaminants (page 1, lines 16-28 and lines 79-84) and is intended for use in noxious atmospheres (page 1, lines 58+). The valve of fig.2 is expressly disclosed as opening responsive to a wearer's exhalation (page 2, lines 38-50). One of ordinary skill would not conclude that the exhalation valve of fig.2 would dangle open under any conditions of proper use because the mask would not function as it is disclosed and inteded to operate.

To the extent, if any, that the valve of fig.2 of Simpson et al. may dangle open, the combination of Simpson et al. as modified by McKim would assure that the valve flap of Simpson et al. as modified by McKim would remain sealed against its seat due to its prestressed configuration until a wearer exhaled.

Applicants' assertion that the record is devoid of any teaching, suggestion or motivation to combine the prior art to Simpson et al. and McKim is not accurate. As set forth above in the body of the rejection, the reason for combination of Simpson et al. with McKim is because it would have provided for quick effective seating without float or bounce after each opening as taught by McKim (col.1, lines 64-72).

Applicants' assertion that Simpson et al. and McKim each present very good evidence of a lack of motivation to combine their respective teachings because no one of ordinary skill in the respirator art has made use of the teachings of McKim in making an exhalation valve is not accurate because examples of the use of the manner of mouting valves as taught by McKim do exist in the respirator art. The mounting of flapper valves in the respirator art by clamping a stationary portion of the flap in a different plane than the sealing surface (i.e. seat) resulting in a curved configuration which physically biases a free end of the valve to a closed position is well known (see fig.3 of Simpson et al.). Another example is seen in the prior art to Matheson (cited but not applied) U.S. Patent 2,999,498, fig.8 and col.1, lines 38-46.

Applicants' argument that the prior art fails to teach or suggest the advantages of applicant's can provide is disagreed with because appellant is arguing against the references individually and one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicants' assertion that the propriety of the combination of Simpson et al. as further modified by Warbasse and Braun is not valid and that no motivation has been identified is not accurate. As stated herein above in the body of the rejection of claims 60-63, it would have been obvious to further modify the valve (fig.2) of Simpson et al. to provide a valve cover because it would have provided a means for protecting the valve flap (12), controlling the extent of movement of the valve flap, and controlling the direction of fluid flow exiting the mask via the valve as taught by Warbasse.

Braun, in an exhalation valve for a filtering face mask, teaches cross members (25) that are disposed within the opening of the valve cover for the purpose of protecting the valve against debris (col.4, lines 25-26).

It would have been obvious to furthter modify the valve cover of Simpson et al. as modified by Warbasse to provide cross members within the opening of the valve cover because it would have provided a a means for protecting the valve against debris as taught by Braun.

(11) Response to Argument

Appellants' arguments regarding any pre-stress on the valve flap of Simpson et al. hinge on speculation of a possibility that valve flap (15) of Simpson et al. might "droop" away from the valve seat. There is no support in the disclosure of Simpson et al. which forms a basis for such a position. The mask body of Simpson et al. (fig.1) is disclosed as filtering inhaled air and releasing exhaled air through exhalation valve (fig.2). The mask of Simpson et al. is disclosed as being worn by persons in which the ambient atmosphere contains gaseous or vaporous contaminants (page 1, lines 24-28). In order for the mask of Simpson et al. to function as it is intended (and there is no reason to

even suspect that is does not), the exhalation valve (fig.2) must remain closed until a wearer exhales; otherwise, gaseous or vaporous contaminants would leak into the interior of the mask body and be inhaled by such a wearer.

Appellants' argument that McKim constitutes nonanalogous art because it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, it is submitted that one of ordinary skill would look to the art of valves (which includes McKim ('618)) to address problems associated with the effectiveness of valve seating of a valve element which is used for controlling the direction of flow of breathable air through such a valve. McKim clearly addresses the problem of effectiveness of valve seating by non-aligning the flap retaining surface and the seal surface relative to each other thereby providing effective seating without float or bounce after each opening (col.1, lines 64-72).

Further, the question of whether McKim constitutes non-analogous art has been addressed and settled in a previous appeal to the Board of Appeals in appellants' related application 08/240,877 in which the Board of Appeals upheld the prior art combination of McKim with other prior art references including Simpson et al..

Appellants' assertion that McKim is not analogous art is disagreed with because as recited in the body of the rejection above, McKim addresses the problems associated with the effectiveness of valve seating of the valve element which is used for controlling

the direction of flow of breathable air through such a valve. McKim clearly addresses the problem of effectiveness of valve seating by non-aligning the flap retaining surface and the seal surface relative to each other thereby providing effective seating without float or bounce after each opening (col.1, lines 64-72).

Appellants' argument that the valve of McKim lacks the required flexibility of applicant's invention is disagreed with because McKim (figs.1 and 3) illustrates flexibility of the valve flap (14) inasmuch as it flexes away from its seat to permit fluid flow therethrough. Further, the manner of bending illustrated in figs.1 and 3 of McKim is consistent with appellants definition of a "...the flap can form or bend in the form of a self-supporting arc when secured at one end as a cantilever and view from a side elevation...". The claims of the instant application define no particular degree of flexibility is quantitatively and/or structurally defined in any manner which is unobvious over the prior art combination of Simpson et al. as modified by McKim. Finally, the flap (15) of Simpson et al. is expressly disclosed as being flexible (page 2, lines 37-38) and it is the combination of prior art to Simpson et al. as further modified by McKim which is at issue not the individual flexibility of the flap of McKim alone.

Appellants' assertion that the examiner has not provided any teaching, suggestion or motivation to combine the prior art to Simpson et al. and McKim is not accurate. As set forth above in the body of the rejection, the reason for combination of Simpson et al. with McKim is because it would have provided for quick effective seating without float or bounce after each opening as taught by McKim (col.1, lines 64-72).

Appellants' arguments that Simpson et al. and McKim each present very good evidence of a lack of motivation to combine their respective teachings because no one of ordinary skill in the respirator art has made use of the teachings of McKim in making an exhalation valve particularly during the period of time between the issuance of McKim and the publication of Simpson et al. are not accurate because examples of the use of the manner of mounting valves as taught by McKim do exist in the respirator art. The mounting of flapper valves in the respirator art by clamping a stationary portion of the flap in a different plane than the sealing surface (i.e. seat) resulting in a curved configuration which physically biases a free end of the valve to a closed position is well known (see fig.3 of Simpson et al.). Another example is seen in the prior art to Matheson (cited but not applied) U.S. Patent 2,999,498, fig.8 and col.1, lines 38-46.

Appellants' argument that the prior art fails to teach or suggest the advantages of applicant's can provide is disagreed with because appellant is arguing against the references individually and one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Appellants' argument that evidence of copying shows nonobviousness and that although Simpson et al. had been known for many years before the filing of the instant application; therefore there is no evidence that any competitor had previously introduced a product that is similar to the exhalation valve that is described and claimed in the present application is not altogether accurate because an example of a similar

exhalation valve is taught in the prior art to Matheson (cited but not applied) U.S. Patent 2,999,498 at col.1, lines 38-46.

Appellants' arguments that the propriety of the combination of Simpson et al. and Warbasse is not valid are not accurate. The reason (i.e. motivation) for the combination is expressly recited herein above in the body of the rejection (i.e. it would have provided a means for protecting the valve flap (12), controlling the extent of movement of the valve flap, and controlling the direction of fluid flow exiting the mask via the valve as taught by Warbasse) and implicit in the operation of the valve and valve cover of in view of figs. 1 and 2 of Warbasse.

Appellants' arguments that Braun lacks a fluid impermeable ceiling including one that increases in height is noted; however, it is the combination of Simpson et al. as further modified by Warbasse and Braun which teach a fluid impermeable ceiling which increases in height (Warbasse) and which includes cross members disposed within the opening of the valve cover (Braun). Nonobviousness cannot be shown by attacking references individually where the rejection is based on a combination of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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